Amendments to the Specification:

Please replace the paragraphs beginning on page 6, line 24, with the following rewritten paragraphs:

In order to achieve the object as described above, the present invention adopts the following constructions corresponding to Figs. 1 to 17 as illustrated in embodiments. ~~However, parenthesized reference numerals affixed to respective elements merely exemplify the elements by way of example, with which it is not intended to limit the respective elements.~~

According to a first aspect of the present invention, there is provided an exposure apparatus ~~(EX)~~ which exposes a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure apparatus comprising a liquid supply mechanism ~~(10)~~ which supplies the liquid onto the substrate; a projection optical system ~~(PL)~~; and a pressure adjustment mechanism ~~(90)~~ which adjusts a pressure of the liquid supplied from the liquid supply mechanism.

According to the present invention, the pressure of the liquid ~~(LQ)~~ supplied from the liquid supply mechanism ~~(10)~~ is adjusted or regulated by using the pressure adjustment mechanism ~~(90)~~. Accordingly, it is possible to avoid, for example, the occurrence of the deformation of the substrate ~~(P)~~ and/or the substrate stage ~~(PST)~~ caused by the pressure fluctuation of the liquid ~~(LQ)~~ as well as the occurrence of the vibration and the displacement of the projection optical system ~~(PL, 2)~~. Therefore, it is possible to obtain the high exposure accuracy and the high measurement accuracy.

According to a second aspect of the present invention, there is provided an exposure apparatus ~~(EX)~~ which exposes a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure apparatus comprising a projection optical system ~~(PL)~~; a liquid supply mechanism ~~(10)~~ which supplies the liquid; and a gas discharge

mechanism ~~(90, 92)~~ which discharges a gas present on an image plane side of the projection optical system; wherein a gas discharge port ~~(98A, 98B)~~ of the gas discharge mechanism is arranged nearer to a projection area defined by the projection optical system ~~(PL)~~ than a liquid supply port ~~(13A, 13B)~~ of the liquid supply mechanism ~~(10)~~, and supply of the liquid by the liquid supply mechanism is started while discharging the gas by the gas discharge mechanism ~~(90, 92)~~.

According to the present invention, the supply of the liquid ~~(LQ)~~ by the liquid supply mechanism ~~(10)~~ is started, while the gas is discharged on the image plane side of the projection optical system ~~(PL)~~ via the gas discharge port ~~(98A, 98B)~~ arranged in the vicinity of the projection area ~~(AR1)~~ of the projection optical system ~~(PL)~~. Accordingly, a region, which is in the vicinity of the gas discharge port ~~(98A, 98B)~~, is allowed to have a negative pressure. Accordingly, the supplied liquid ~~(LQ)~~ is smoothly arranged in the region allowed to have the negative pressure. Therefore, it is possible to avoid the inconvenience which would be otherwise caused such that any gas portion is formed in the liquid immersion area ~~(AR2)~~ formed on the image plane side of the projection optical system ~~(PL)~~. It is possible to obtain the high exposure accuracy and the high measurement accuracy.

According to a third aspect of the present invention, there is provided an exposure apparatus ~~(EX)~~ which exposes a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure apparatus comprising a projection optical system ~~(PL)~~; a liquid supply mechanism ~~(10)~~ which supplies the liquid ~~(LQ)~~; a first liquid recovery mechanism ~~(20)~~ which has a liquid recovery port ~~(23A, 23B)~~ disposed outside a liquid supply port ~~(13A, 13B)~~ of the liquid supply mechanism ~~(10)~~ with respect to a projection area ~~(AR1)~~ of the projection optical system ~~(PL)~~; and a second liquid recovery mechanism ~~(40)~~ which has a driving source ~~(100B)~~ which is different from that for the first liquid recovery mechanism ~~(20)~~ and which has a liquid recovery port ~~(43A, 43B)~~ disposed

outside the liquid recovery port ~~(23A, 23B)~~ of the first liquid recovery mechanism ~~(20)~~ with respect to the projection area ~~(AR1)~~ of the projection optical system ~~(PL)~~.

According to the present invention, the liquid ~~(LQ)~~, which is unsuccessfully recovered by the liquid recovery port ~~(23A, 23B)~~ of the first liquid recovery mechanism ~~(20)~~, is recovered via the liquid recovery port ~~(43A, 43B)~~ of the second liquid recovery mechanism ~~(40)~~. Therefore, it is possible to avoid the outflow of the liquid ~~(LQ)~~. Even when any abnormality or trouble arises in the driving source ~~(100A)~~ for driving the first liquid recovery mechanism ~~(20)~~, the liquid ~~(LQ)~~ can be satisfactorily recovered by the second liquid recovery mechanism ~~(40)~~, because the second liquid recovery mechanism ~~(40)~~ is driven by the distinct (another) driving source ~~(100B)~~. It is possible to avoid the outflow of the liquid ~~(LQ)~~. Therefore, it is possible to avoid the deterioration of the exposure accuracy and the measurement accuracy which would be otherwise caused by the outflow of the liquid ~~(LQ)~~.

According to a fourth aspect of the present invention, there is provided an exposure apparatus ~~(EX)~~ which exposes a substrate by radiating an exposure light beam onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure apparatus comprising a projection optical system ~~(PL)~~; a liquid supply mechanism ~~(10)~~ which supplies the liquid; a liquid recovery mechanism ~~(20)~~ which recovers the liquid; and a substrate stage ~~(PST)~~ which holds the substrate; wherein a velocity of movement of the substrate stage differs depending on a distance between a first position and a second position when the substrate stage ~~(PST)~~ is moved substantially linearly from the first position to the second position in a state in which a liquid immersion area ~~(AR2)~~ is locally formed on the substrate stage ~~(PST)~~ by the liquid supply mechanism ~~(10)~~ and the liquid recovery mechanism ~~(20)~~.

According to the present invention, for example, it is possible to deal with the following situation. That is, for example, when the distance between the first position and the second position is long, and the substrate stage ~~(PST)~~ is moved over a long distance, then the

liquid ~~(LQ)~~ may outflow and/or any gas portion may be formed, for example, due to the exfoliation and/or the depletion of the liquid ~~(LQ)~~. As a result, there is such a possibility that it is difficult to satisfactorily retain the liquid ~~(LQ)~~ on the image plane side of the projection optical system ~~(PL)~~. However, in such a situation, the liquid ~~(LQ)~~ can be satisfactorily retained on the image plane side of the projection optical system ~~(PL)~~ by slowing the velocity of movement of the substrate stage ~~(PST)~~. Therefore, it is possible to avoid the outflow of the liquid ~~(LQ)~~ and the formation of the gas portion in the liquid immersion area, and it is possible to avoid the deterioration of the exposure accuracy and the measurement accuracy which would be otherwise caused, for example, by the outflow of the liquid ~~(LQ)~~ and the formation of the gas portion. On the other hand, when the distance between the first position and the second position is short, and the substrate stage ~~(PST)~~ is not moved over a long distance, then it is possible to improve the throughput by quickening the velocity of movement of the substrate stage ~~(PST)~~.

In this application, the term "liquid immersion area ~~(AR2)~~ on the substrate stage ~~(PST)~~" also includes the "liquid immersion area ~~(AR2)~~ on the substrate ~~(P)~~ held by the substrate stage ~~(PST)~~".

According to a fifth aspect of the present invention, there is provided an exposure apparatus ~~(EX)~~ which exposes a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid; the exposure apparatus comprising a projection optical system ~~(PL)~~; a liquid supply mechanism ~~(10)~~ which supplies the liquid; a liquid recovery mechanism ~~(20)~~ which recovers the liquid; and a substrate stage ~~(PST)~~ which holds the substrate; wherein a velocity of movement of the substrate stage differs depending on a direction of movement of the substrate stage from a first position to a second position when the substrate stage ~~(PST)~~ is moved substantially linearly from the first position to the second position in a state in which a liquid immersion area ~~(AR2)~~ is locally formed on the substrate stage ~~(PST)~~ by the

liquid supply mechanism ~~(10)~~ and the liquid recovery mechanism ~~(20)~~.

According to the present invention, the following situation is assumed. That is, for example, there is such a possibility that any inconvenience arises, for example, such that any gas portion is formed by the exfoliation and/or the depletion of the liquid ~~(LQ)~~ of the liquid immersion area ~~(AR2)~~ and/or the outflow of the liquid ~~(LQ)~~, because the liquid ~~(LQ)~~ cannot be retained satisfactorily on the image plane side of the projection optical system ~~(PL)~~ depending on the direction of movement of the substrate stage ~~(PST)~~ due to the size and/or the arrangement of the supply port ~~(13)~~ and the recovery port ~~(23)~~ for the liquid ~~(LQ)~~. However, when the velocity of movement of the substrate stage ~~(PST)~~ is allowed to differ depending on the direction of movement of the substrate stage ~~(PST)~~, then it is possible to avoid the occurrence of the inconvenience such as the formation of the gas portion and the outflow of the liquid ~~(LQ)~~, and it is possible to avoid the deterioration of the exposure accuracy and the measurement accuracy. For example, when the substrate stage ~~(PST)~~ is moved in the direction in which the liquid recovery force is weak, the liquid ~~(LQ)~~ can be satisfactorily retained on the image plane side of the projection optical system ~~(PL)~~ by slowing the velocity of movement of the substrate stage ~~(PST)~~. On the other hand, for example, when the substrate stage ~~(PST)~~ is moved in the direction in which the liquid recovery force and/or the liquid supply force are strong, it is possible to improve the throughput by quickening the velocity of movement of the substrate stage ~~(PST)~~.

According to a sixth aspect of the present invention, there is provided an exposure apparatus which exposes a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~ provided onto the substrate ~~(P)~~; the exposure apparatus comprising a flow passage-forming member ~~(70)~~ which has a light-transmitting portion ~~(70T)~~ and which includes a flow passage ~~(14, 24, 44, 94, 96)~~ for the liquid, the flow passage being formed in the light-transmitting section; and a liquid supply unit ~~(10)~~ which supplies the

liquid to a space between the substrate ~~(P)~~ and the flow passage-forming member ~~(70)~~ via the flow passage of the flow passage-forming member ~~(70)~~; wherein a pressure of the liquid supplied to the space between the substrate ~~(P)~~ and the flow passage-forming member ~~(70)~~ is adjusted depending on a flow rate of the liquid supplied via the flow passage ~~(94, 96)~~. In the case of this exposure apparatus, the liquid is supplied to the space between the flow passage-forming member and the substrate. Therefore, the pressure, which is exerted on the substrate by the liquid on the substrate, can be adjusted by controlling the flow rate of the liquid supplied via the flow passage of the flow passage-forming member.

According to a seventh aspect of the present invention, there is provided an exposure method for exposing a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure method comprising supplying the liquid ~~(LQ)~~ onto the substrate ~~(P)~~; adjusting a pressure of the liquid ~~(LQ)~~ supplied onto the substrate; and exposing the substrate by radiating the exposure light beam onto the substrate through the liquid ~~(LQ)~~. According to the present invention, the occurrence of, for example, the deformation, the displacement, and the vibration of the substrate and/or the substrate stage, which would be otherwise caused, for example, by the pressure fluctuation of the liquid, can be avoided by regulating or adjusting the pressure of the supplied liquid.

According to an eighth aspect of the present invention, there is provided an exposure method for exposing a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ via a projection optical system ~~(PL)~~ and a liquid ~~(LQ)~~; the exposure method comprising supplying the liquid ~~(LQ)~~ onto the substrate; discharging a gas at a position which is positioned in the vicinity of the projection optical system ~~(PL)~~ and which is positioned higher than a terminal end surface ~~(2A)~~ of the projection optical system ~~(PL)~~ in relation to a vertical direction ~~(Z direction)~~; and exposing the substrate by radiating the exposure light beam onto the substrate through the liquid. According to this exposure method, it is possible to avoid

the inconvenience which would be otherwise caused such that any gas portion such as the bubble is formed in the liquid for forming the liquid immersion area.

According to a ninth aspect of the present invention, there is provided an exposure method for exposing a substrate by radiating an exposure light beam ~~(EL)~~ onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure method comprising: supplying the liquid ~~(LQ)~~ onto the substrate ~~(P)~~; recovering the liquid disposed on the substrate by first and second liquid recovery mechanisms ~~(20, 40)~~ at positions farther than a position at which the liquid is supplied, with respect to a projection optical system ~~(PL)~~; and exposing the substrate by radiating the exposure light beam onto the substrate through the liquid; wherein driving power sources ~~(100A, 100B)~~ of the first and second liquid recovery mechanisms are different from each other. According to the present invention, even when any abnormality or trouble arises in the driving source for driving the first liquid recovery mechanism, the second liquid recovery mechanism is driven by the distinct (different) driving source. Therefore, it is possible to satisfactorily recover the liquid by the second liquid recovery mechanism, and it is possible to avoid the outflow of the liquid.

According to a tenth aspect of the present invention, there is provided an exposure method for exposing a substrate ~~(P)~~ by radiating an exposure light beam onto the substrate ~~(P)~~ through a liquid ~~(LQ)~~; the exposure method comprising: exposing the substrate ~~(P)~~ by radiating the exposure light beam onto the substrate ~~(P)~~ through the liquid ~~(LQ)~~; moving the substrate ~~(P)~~ from a first position to a second position while retaining the liquid on the substrate when the substrate is unexposed; and adjusting a velocity of movement of the substrate from the first position to the second position depending on a positional relationship between the first position and the second position. According to the present invention, for example, when the substrate is moved from the first position to the second position by using the substrate stage, the velocity of movement is adjusted depending on the distance of

movement and/or the direction of movement. Accordingly, it is possible to satisfactorily retain the liquid on the substrate.

Please replace the paragraph beginning on page 17, line 11, with the following rewritten paragraph:

According to the present invention, the liquid immersion area ~~(AR2)~~ can be satisfactorily formed to obtain the high exposure accuracy and the high measurement accuracy. Therefore, it is possible to produce the device having the desired performance.

Please replace the paragraph beginning on page 19, line 15, with the following rewritten paragraph:

Fig. 1 shows a schematic arrangement illustrating an embodiment of an exposure apparatus of the present invention. With reference to Fig. 1, the exposure apparatus EX includes a mask stage MST which supports a mask M, a substrate stage PST which supports a substrate P, an illumination optical system IL which illuminates, with an exposure light beam EL, the mask M supported by the mask stage MST, a projection optical system PL which performs projection exposure for the substrate P supported by the substrate stage PST with an image of a pattern of the mask M illuminated with the exposure light beam EL, and a control unit CONT which integrally controls the overall operation of the exposure apparatus EX. The entire exposure apparatus EX is driven by the electric power fed from a commercial power source ~~(first driving source)~~ 100A supplied from an electric power company.

Please replace the paragraph beginning on page 33, line 2, with the following rewritten paragraph:

The second liquid recovery mechanism 40 is provided with an uninterruptible power source ~~(second driving source)~~ 100B which is distinct (different) from the commercial power source 100A serving as the driving source for the entire exposure apparatus EX including the first liquid recovery mechanism 20. The uninterruptible power source 100B supplies the electric power (driving force) to the driving section of the second liquid recovery mechanism 40, for example, when the commercial power source 100A suffers the power failure.

Please replace the paragraph beginning on page 34, line 22, with the following rewritten paragraph:

Owing to the provision of the third liquid recovery mechanism 60, even if the liquid LQ outflows to the outside of the substrate P and the plate member 56, the outflow liquid LQ can be recovered. It is possible to avoid the occurrence of any inconvenience such as the variation of the environment in which the substrate P is placed, which would be otherwise caused by the vaporization of the outflow liquid LQ. Alternatively, the following arrangement may also be adopted without providing the vacuum system for the third liquid recovery mechanism 60 ~~(third liquid recovery section)~~. That is, the liquid LQ, which is recovered by the liquid-absorbing member 62, is allowed to spontaneously flow to the outside of the substrate stage PST in accordance with the self-weight. Further, the following arrangement may also be adopted without providing the third liquid recovery section including the vacuum system. That is, only the liquid-absorbing member 62 is arranged on the substrate stage PST. The liquid-absorbing member 62, which has absorbed the liquid LQ, is exchanged periodically (for example, every time when 1 lot is processed). In this arrangement, the substrate stage PST undergoes the weight fluctuation depending on the liquid LQ. However, the stage positioning accuracy can be maintained by changing the stage control parameter depending on the weight of the liquid LQ recovered by the liquid-absorbing

member 62.